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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,819	07/07/2004	Ryuji Shiozaki	Y31-170800C/KK	8667

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EXAMINER

CHUO, TONY SHENG HSIANG

ART UNIT	PAPER NUMBER
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1745

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/25/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/500,819	SHIOZAKI ET AL.	
	Examiner	Art Unit	
	Tony Chuo	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 February 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Claims 7-20 are currently pending. New claims 15-20 have been added. The amendment to the specification is accepted by the examiner. The previously stated 112 rejection of claims 11 and 12 is withdrawn. The amended claims do overcome some of the previously stated 102 and 103 rejections. However, upon further consideration, claims 7-20 still read on some of the prior art references. Therefore, claims 7-20 are rejected under the following new 112, 102 and 103 rejections. This action is made FINAL as necessitated by the amendment.

Drawings

2. The drawing filed on 2/28/07 is accepted by the examiner.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 7-10, 15, and 16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The limitations "said composite

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oxide comprises an oxide which is other than $\text{LiMn}_{0.05}\text{Ni}_{0.05}\text{Co}_{0.9}\text{O}_2$ and " $b \neq 0.1$ " are not supported by the specification. In fact, Example 4 of the specification discloses $\text{LiMn}_{0.05}\text{Ni}_{0.05}\text{Co}_{0.9}\text{O}_2$.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 7 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Noma et al (JP 05-242891). The Noma reference discloses a non-aqueous electrolyte battery having a negative electrode, a non-aqueous electrolyte, and a positive electrode containing a positive active material that is $\text{Li}_a\text{Mn}_b\text{Ni}_c\text{Co}_d\text{O}_e$ wherein $0 < a < 1.3$, $0.02 \leq b \leq 0.5$, $0.02 \leq d/c+d \leq 0.9$, $1.8 < e < 2.2$, and $b+c+d=1$ (See paragraphs [0006],[0012],[0031]). An example of the active material that would meet the limitation of $0 < a \leq 1.3$, $|b-c| < 0.03$, $0.8 \leq d < 1$, $1.7 \leq e \leq 2.3$, and $b+c+d=1$, wherein the composite oxide comprises an oxide which is other than $\text{LiMn}_{0.05}\text{Ni}_{0.05}\text{Co}_{0.9}\text{O}_2$ and $b \neq 0.1$, is $\text{LiMn}_{0.05}\text{Ni}_{0.1}\text{Co}_{0.85}\text{O}_2$.

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7. Claims 7-10 and 15-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Fujimoto et al (US 2003/0180617). The Fujimoto reference discloses a non-aqueous electrolyte battery having a negative electrode, a non-aqueous electrolyte, and a positive electrode containing a positive active material comprising a compound represented by $\text{Li}_a\text{Mn}_b\text{Ni}_b\text{Co}_{1-2b}\text{O}_2$ wherein $0 \leq a \leq 1.1$ and $0 < b \leq 0.5$ (See paragraph [0010]). Examples of active materials that read on the claimed composite oxides are $\text{LiMn}_{0.025}\text{Ni}_{0.025}\text{Co}_{0.95}\text{O}_2$, $\text{LiMn}_{0.167}\text{Ni}_{0.167}\text{Co}_{0.67}\text{O}_2$, and $\text{LiMn}_{0.0835}\text{Ni}_{0.0835}\text{Co}_{0.833}\text{O}_2$.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 11-14 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Numata et al (JP 2000-077071) in view of Fujimoto et al (US 2003/0180617). The Numata reference discloses a non-aqueous electrolyte battery having a negative electrode, a non-aqueous electrolyte, and a positive electrode containing (A) lithium manganese multiple oxide (LiMn_2O_4) having a spinel structure and (B) lithium nickel complex oxide (See paragraphs [0026],[0034],[0059],[0061]). It also discloses (A) and (B) in a proportion (weight ratio) of 90:10, 85:15, 80:20, 70:30, and 65:35 (See paragraph [0080]). However, Numata et al does not expressly teach a lithium-nickel-manganese-cobalt composite oxide having an $\alpha\text{-NaFeO}_2$ type layer

structure and represented by the general formula $\text{Li}_a\text{Mn}_b\text{Ni}_c\text{Co}_d\text{O}_e$ wherein $0 < a \leq 1.3$, $|b - c| < 0.03$, $0.9 \leq d < 1$, $1.7 \leq e \leq 2.3$, $b + c + d = 1$, and $b < 0.05$. The Fujimoto reference discloses a positive active material comprising a compound represented by $\text{Li}_a\text{Mn}_b\text{Ni}_b\text{Co}_{1-2b}\text{O}_2$ wherein $0 \leq a \leq 1.1$ and $0 < b \leq 0.5$ (See paragraph [0010]). An example of active material that read on the claimed composite oxides is $\text{LiMn}_{0.025}\text{Ni}_{0.025}\text{Co}_{0.95}\text{O}_2$. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Numata positive electrode to include positive active material comprising a compound represented by $\text{Li}_a\text{Mn}_b\text{Ni}_b\text{Co}_{1-2b}\text{O}_2$ wherein $0 \leq a \leq 1.1$ and $0 < b \leq 0.5$ in order to obtain sufficient discharge capacity when the battery is discharged at a large current (See paragraph [0009]).

Response to Arguments

10. Applicant's arguments with respect to claims 7-14 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony Chuo whose telephone number is (571) 272-0717. The examiner can normally be reached on M-F, 8:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TC


JONATHAN CREPEAU
PRIMARY EXAMINER